



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,488	01/23/2004	Marc Huard	0579-1033	4926
466 7590 02/08/2007 YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER GODFREY, KEITH JOSEPH	
			ART UNIT	PAPER NUMBER
			1732	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/08/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/762,488	Applicant(s) HUARD ET AL.	
	Examiner Keith J. Godfrey	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/23/04, 4/8/04, 5/27/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1 and 14-17 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 18-25 of copending Application No. 10/762,353. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 18-25 of US Application No. 10/762,353 teach the basic claimed process of filling a mold including: rise in flowrate from a zero flowrate to a nominal flowrate (D_n) greater than 40g/min, full flowrate filling, with the nominal flowrate (D_n) maintained, and flowrate reduction from the nominal flowrate (D_n) to the zero flowrate, which method is characterized in that the rise in flowrate step is divided into at least two phases: a low flowrate start of filling

Art Unit: 1732

phase, which continues until the mold is filled with the material to a height of at least 2 mm at the deepest point of the mold, the flowrate increasing during this phase to a maximum start of filling flowrate (D_d) less than 20 g/min, and then a main rise in flowrate phase to increase from the start of filling flowrate (D_d) to the nominal flowrate (D_n). Regarding claim 1, it is submitted that it is fully encompassing of the claims 18-25 of U.S. Application No. 10/762,353, hence a secondary reference is not required.

Regarding claim 14, claim 18 of U.S. Application No. 10/762,353 teaches a method of molding an organic material optical component in an appropriate molding cavity, the method including a sequence of filling the molding cavity with the organic material in the liquid state and a step of polymerizing the material in said molding cavity.

With regard to claim 15, claim 24 of U.S. Application No. 10/762,353 teaches a method according to any of claims 18 to 23, wherein the material is introduced into the molding cavity via an orifice in the lower portion of said cavity.

With regard to claims 16-17, claim 25 of U.S. Application No. 10/762,353 teaches a method according to any of claims 18 to 24, wherein polymerization of the material is initiated immediately after complete filling of the molding cavity.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claims 2-13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 18-25 of copending Application No. 10/742,353 in view of Hettinga US Patent 5,902,525. Claims

Art Unit: 1732

18-25 of US Application No. 10/742,353 teach the basic claimed process as shown above. Regarding claims 2-7 and 9, claims 18-25 of Application No. 10/742,353 do not teach the two-step start of filling phase or the preferable ranges and fill values of which the present invention specifies. Hettinga ('525) teaches a preliminary rise in injection flow rate from a zero flow rate to a pre-determined flow rate (column 6, lines 15-18 and column 8, lines 16-21), a low maintained injection flow rate during the first fill portion of the mold (column 8, lines 16-21 and column 8, lines 32-35). Hettinga ('525) also teaches that these specific ranges and fill values depend on the mold cavity shape and molding material (paragraph 0088). Hence it is submitted that the fill time will depend on the mold cavity shape and molding material. As such, it is submitted that the fill time is a result-effective variable. In re Antoine, 559 F. 2d 618, 195 USPQ6 (CCPA 1977) (See MPEP 2144.05). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the injection rates and fill values in the process of claims 18-25 of US Application 10/742,353 in view of Hettinga ('525) because Hettinga ('525) teaches an efficient process that reduces spraying/splashing, hence providing for an improved product.

Regarding claim 8, claims 18-25 of US Application 10/742,353 teach that the injection rate is determined in g/min. As such, claims 18-25 of US Application 10/742,353 teach the injection flow rate is a function of time.

Regarding claims 10-13, claims 18-25 of US Application 10/742,353 does not teach the two-step end of filling phase or the preferable ranges and fill values of which the present invention specifies. Hettinga ('525) teaches a main injection flow rate

Art Unit: 1732

reduction (column 8, lines 57-63), low injection flow rate end of filling (column 8, lines 57-63), and a final injection flow rate reduction to a zero flow rate (column 9, lines 35-38). Furthermore Hettinga ('525) specifically teaches that the actual mold fill rates are determined based on mold flow analysis of a particular mold (column 8, lines 52-56). Hence, it is submitted that the mold fill rate is a result-effective variable. In re Antoine, 559 F. 2d 618, 195 USPQ6 (CCPA 1977) (See MPEP 2144.05). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the injection rates and fill values in the process of claims 18-25 of US Application 10/742,353 in view of Hettinga ('525) because Hettinga ('525) teaches an efficient process that reduces spraying/splashing, hence providing for an improved product.

This is a provisional obviousness-type double patenting rejection.

Claim Objections

4. Claims 16-17 are objected to because of the following informalities: in claim 16, line 1, "either" should be deleted. It leads the examiner to believe there is a choice between two previous claims in which to form a basis from when in fact there is only one. In claim 17, line 1, "either" should be deleted. It leads the examiner to believe there is a choice between two previous claims in which to form a basis from when in fact there is only one. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 3 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 3 recites the broad recitation 5 mm to 10 mm, and the claim also recites 7 mm which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Hettinga (US Patent 5,902,525) in view of Reed et al. (US 2004/0021238).

Hettinga ('525) teaches the basic claimed process of an injection mold filling method including: a preliminary rise in injection flow rate from a zero flow rate to a pre-determined flow rate (column 6, lines 15-18 and column 8, lines 16-21), a low maintained injection flow rate during the first fill portion of the mold (column 8, lines 16-21 and column 8, lines 32-35), a main rise in injection flow rate (column 8, lines 36-39), an maintained full injection flow rate (column 8, lines 43-47), a main injection flow rate reduction (column 8, lines 57-63), low injection flow rate end of filling (column 8, lines 57-63), and a final injection flow rate reduction to a zero flow rate (column 9, lines 35-38).

Regarding claims 1-5 and 9-12, although Hettinga ('525) teaches the individual process steps. Hettinga ('525) does not teach the specific claimed fill rates. Further it is noted that Hettinga ('525) teaches a filling of the mold of 10%. Hence, it is submitted that the height of material filling the mold is 10%, which is 2-10 mm. Furthermore Hettinga ('525) specifically teaches that the actual mold fill rates are determined based on mold flow analysis of a particular mold (column 8, lines 52-56). Hence, it is

Art Unit: 1732

submitted that the mold fill rate is a result-effective variable. In re Antoine, 559 F. 2d 618, 195 USPQ6 (CCPA 1977) (See MPEP 2144.05). Therefore, it would have been obvious to one of ordinary skill in the art to use routine experimentation to determine an optimum flow rate from zero to the nominal flow rates 40 g/min and a start of filling flow rate of less than 20 g/min in the process of Hettinga ('525) because Hettinga ('525) specifically teaches that the mold fill rate is a result-effect of variable depending on the type of mold and molded material. Further regarding claims 1-5 and 9-12 and in regard to claim 14, Hettinga ('525) does not teach injection molding optical components. Reed ('238) teaches a method of making an organic glass lens using a two piece mold cavity, filling the molding cavity from the bottom with a liquid polymerizable composition, and polymerizing the liquid composition is said mold after completion of filling mold (paragraph 0018-0022). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the optical elements as taught by Reed ('238) using the method of Hettinga ('525), because Hettinga ('525) teaches an efficient process that reduces spraying/splashing, hence providing for an improved product.

With regard to claim 6, Hettinga ('525) teaches the basic claimed process of an injection mold filling method including: a preliminary rise in injection flow rate from a zero flow rate to a pre-determined flow rate (column 6, lines 15-18 and column 8, lines 16-21), a low maintained injection flow rate during the first fill portion of the mold (column 8, lines 16-21 and column 8, lines 32-35), a main rise in injection flow rate (column 8, lines 36-39), an maintained full injection flow rate (column 8, lines 43-47), a

Art Unit: 1732

main injection flow rate reduction (column 8, lines 57-63), low injection flow rate end of filling (column 8, lines 57-63), and a final injection flow rate reduction to a zero flow rate (column 9, lines 35-38).

With regard to claims 7-8, and 13 Hettinga ('525) teaches that the fill rate is a function of time (See fig. 8 and column 6, lines 49-51). Although Hettinga ('525) does not teach a specific fill time, Hettinga ('525) teaches that the fill rate depends on the mold cavity shape and molding material (paragraph 0088). Hence it is submitted that the fill time will also depend on the mold cavity shape and molding material. As such, it is submitted that the fill time is a result-effective variable. In re Antoine, 559 F. 2d 618, 195 USPQ6 (CCPA 1977) (See MPEP 2144.05). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use routine experimentation to determine an optimum fill time in the process of Hettinga ('525) in view of Reed ('238) because Hettinga ('525) specifically teaches that the fill rate, depends on the fill time which further depends in the mold cavity shape and molding material, and as such teaching that the fill time is a result-effective variable.

With regard to claims 15, Reed ('238) teaches a method of making an organic glass lens using a two piece mold cavity, filling the molding cavity from the bottom with a liquid polymerizable composition, and polymerizing the liquid composition in said mold after completion of filling mold (paragraph 0018-0022). Therefore it would have been obvious to one of ordinary skill in the art to use a vertical filling mold as taught by Reed ('238) in the process of Hettinga ('525) because of known advantages such as reduced defects, hence providing for an improved product.

With regard to claims 16-17 Hettinga ('525) teaches hardening (polymerization) of the material (column 10, lines 11-12).

9. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US 2004/0021238 A1) in view of Hettinga (US Patent 5,902,525).

Reed ('238) teaches the basic claimed process for injection molding a thermosetting material for an ophthalmic lens using the method of filling a molding cavity from the bottom of said cavity with a liquid polymerizable composition (paragraphs 0018 and 0019) and polymerizing the liquid polymerizable composition after completion of mold filling (paragraph 0022).

However in regard to claims 1, 6, 10, 12, and 14-17, Reed ('238) does not teach the specific method of how said injection filling should be executed. Hettinga ('525) teaches a process of an injection mold filling method including: a preliminary rise in injection flow rate from a zero flow rate to a pre-determined flow rate (column 6, lines 15-18 and column 8, lines 16-21), a low maintained injection flow rate during the first fill portion of the mold (column 8, lines 16-21 and column 8, lines 32-35), a main rise in injection flow rate (column 8, lines 36-39), an maintained full injection flow rate (column 8, lines 43-47), a main injection flow rate reduction (column 8, lines 57-63), low injection flow rate end of filling (column 8, lines 57-63), and a final injection flow rate reduction to a zero flow rate (column 9, lines 35-38). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fill method taught by Hettinga ('525) to make the optical elements by the process of Reed ('238) because

Hettinga ('525) teaches an efficient mold filling process that reduces spraying/splashing, hence providing for an improved product.

Further regarding claim 1 and in regard to claims 2-5 and 9-12, Reed ('238) does not teach the claimed injection method or the specific claimed fill rates. Although Hettinga ('525) also does not teach the specific claimed fill rates, Hettinga ('525) teaches the individual process steps. Further it is noted that Hettinga ('525) teaches a filling of the mold of 10%. Hence, it is submitted that the height of material filling the mold is 10%, which is 2-10 mm. Furthermore Hettinga ('525) specifically teaches that the actual mold fill rates are determined based on mold flow analysis of a particular mold (column 8, lines 52-56). Hence, it is submitted that the mold fill rate is a result-effective variable. In re Antoine, 559 F. 2d 618, 195 USPQ6 (CCPA 1977) (See MPEP 2144.05). Therefore, it would have been obvious to one of ordinary skill in the art to use routine experimentation to determine an optimum flow rate from zero to the nominal flow rates 40 g/min and a start of filling flow rate of less than 20 g/min in the process of Reed in view of Hettinga ('525) because Hettinga ('525) specifically teaches that the mold fill rate is a result-effective of variable depending on the type of mold and molded material.

With regard to claims 7-8, and 13, Reed ('238) does not teach that the fill rate is a function of time nor teaches a specific fill time. Hettinga ('525) teaches that the fill rate is a function of time (See fig. 8 and column 6, lines 49-51). Although Hettinga ('525) does not teach a specific fill time, Hettinga ('525) teaches that the fill rate depends on the mold cavity shape and molding material (paragraph 0088). Hence it is submitted that the fill time will depend on the mold cavity shape and molding material. As such, it

Art Unit: 1732

is submitted that the fill time is a result-effective variable. In re Antoine, 559 F. 2d 618, 195 USPQ6 (CCPA 1977) (See MPEP 2144.05). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use routine experimentation to determine an optimum fill time in the process of Reed ('238) in view of Hettinga ('525) because Hettinga ('525) specifically teaches that the fill rate and fill time depend on the mold cavity shape and molding material, hence teaching that the fill time is a result-effective variable.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art contains teachings and methods of injection mold filling procedures related with the present invention.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith J. Godfrey whose telephone number is 571-272-6391. The examiner can normally be reached on 8:00-5:00 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina A. Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 1732

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

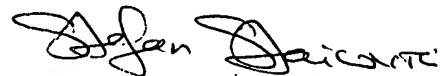
you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kjg



STEFAN STAICOVICI, PHD
PRIMARY EXAMINER

Art 1732

2/5/07